IN THE CLAIMS

1. (Currently Amended) A mixing device for mixing a first gaseous stream comprising a fuel and a second gaseous stream comprising an oxidant, which mixing device comprises: a cylindrical mixing chamber having a wall and a central longitudinal axis, ~~defined by a cylindrical wall having a diameter~~, ~~an~~ a first injector for injecting the ~~gaseous~~ first stream ~~comprising fuel~~ tangentially along an inner surface of the wall ~~of the mixing chamber~~, and ~~an~~ a second injector for injecting ~~a~~ the second stream ~~of the oxidant~~ axially along ~~a~~ the central longitudinal axis ~~of the mixing chamber~~, wherein the diameter of the mixing chamber, and dimensions and ~~location~~ locations of ~~fuel~~ the first injector~~, for injecting fuel,~~ and the second injector ~~for injecting oxidant~~ are such that, during normal operation, the ~~tangentially~~ injected first stream ~~comprising the fuel~~ forms a wall jet around the ~~axially~~ injected second stream ~~of the oxidant~~ without impinging upon the ~~axially~~ injected second stream.
2. (Currently Amended) ~~A~~ The mixing device according to claim 1, wherein, during normal operation,

   $d_{ox} < d_{mix} - 3.\ d_{fuel}$

   wherein:

   d_{ox} is the diameter of the second stream ~~of the oxidant~~ at the point where the stream ~~of the oxidant~~ is injected;

   d_{mix} is the diameter of the mixing chamber; and

   d_{fuel} is the width of the first stream ~~comprising the fuel~~ in a perpendicular plane ~~wherein the stream comprising the fuel~~ in which it is injected.
3. (Currently Amended) The mixing device according to claim 1, wherein the first injector ~~for injecting the stream comprising the fuel comprise~~ comprises at least two openings arranged in a perpendicular plane at regular intervals along the circumference of the cylindrical mixing chamber.
4. (Currently Amended) The mixing device according to claim 1, wherein the first injector ~~for injecting the stream comprising the fuel comprise~~ comprises two axially placed apart openings.
5. (Currently Amended) The mixing device according to claim [[1]] 2, wherein d_{fuel} is not greater than 0.33 d_{mix}.

6. (Currently Amended) The mixing device according to claim [[1]] 2, wherein d_{mix} is at most 100mm.

7. (Currently Amended) ~~The~~ A reactor for the partial oxidation of a fuel comprising a mixing device and a partial oxidation reaction zone, wherein the mixing device comprises a cylindrical mixing chamber having a wall and a central longitudinal axis, ~~an~~ a first injector for injecting a first gaseous stream comprising fuel~~, wherein the gaseous stream is injected~~ tangentially along an inner surface of ~~a~~ the wall ~~of the mixing chamber~~, and ~~an oxidant~~ a second injector for axially injecting a second stream comprising oxidant along the central longitudinal axis ~~of the mixing chamber~~, wherein ~~said mixing chamber has a~~ the diameter, and dimensions and ~~location~~ locations of the injectors are such that, during normal operation, the ~~tangentially~~ injected first stream ~~comprising the fuel~~ forms a wall jet around the ~~axially~~ injected second stream ~~of the oxidant~~ without impinging upon the ~~axially~~ injected second stream.

8. (Currently Amended) The reactor according to claim 7, wherein the partial oxidation reaction zone comprises a catalyst~~, comprises a cylindrical mixing chamber, an injector for injecting a gaseous stream comprising fuel, wherein the gaseous stream is injected tangentially along an inner surface of a wall of the mixing chamber, and an oxidant injector for axially injecting along the central longitudinal axis of the mixing chamber, wherein said mixing chamber has a diameter and dimensions and location of the injectors are such that, during normal operation, the tangentially injected stream comprising the fuel forms a wall jet around the axially injected stream of the oxidant without impinging upon the axially injected stream~~.

9. (Currently Amended) A process for the catalytic partial oxidation of a fuel, ~~comprising~~ which process comprises mixing a first gaseous stream comprising the fuel and a second gaseous stream comprising oxidant to obtain a feed mixture, and contacting the feed mixture with a catalyst, wherein the first ~~gaseous~~ stream ~~comprising the fuel~~ and the second stream ~~gaseous oxidant~~ are mixed in a mixing device comprising a cylindrical mixing chamber having a wall and a central longitudinal axis ~~defined by a cylindrical wall having a diameter~~, ~~an~~ a first injector for injecting the first ~~gaseous~~ stream ~~comprising the fuel~~ tangentially along an inner surface of the wall ~~of the mixing chamber~~, and ~~an~~ a second injector for injecting ~~a~~ the second stream ~~of the oxidant~~ axially along ~~a~~ the central longitudinal axis ~~of the~~

~~mixing chamber~~, wherein the diameter of the mixing chamber, and the dimensions and location of the first injector ~~for injecting the stream comprising the fuel~~ and the second injector ~~for injecting the oxidant~~ are such that, during normal operation, the ~~tangentially~~ injected first stream ~~comprising the fuel~~ forms a wall jet around the ~~axially~~ injected second stream ~~of the oxidant~~ without impinging upon the ~~axially~~ injected second stream.

10. (Currently Amended) The process according to claim 9 wherein the first gaseous stream ~~comprising the fuel~~ is a gaseous hydrocarbonaceous fuel.
11. (Currently Amended) The process according to claim 9, wherein the second gaseous ~~oxidant~~ stream is pure oxygen.
12. (Previously Presented) The process according to claim 9, wherein the feed mixture comprises the fuel and the oxidant in amounts giving an oxygen-to-carbon ratio of from between 0.3 to 0.8.
13. (Previously Presented) The process according to claim 9, wherein the feed mixture is contacted with the catalyst at a pressure in the range of from between 2 to between 150 bar.
14. (Previously Presented) The process according to claim 9, wherein the feed mixture is contacted with the catalyst at a gas hourly space velocity of from between 20,000 to between 100,000,000 Nl/kg/h.
15. (Previously Presented) The process according to claim 9, wherein the feed mixture is contacted with the catalyst at a temperature of from between 750 to between 1400 °C.
16. (Currently Amended) The mixing device according to claim 5, wherein d_{fuel} is not ~~granter~~ greater than 0.25 d_{mix}.
17. (Original) The mixing device according to claim 6, wherein d_{mix} is at most 50mm.
18. (Original) The mixing device according to claim 6, wherein d_{mix} is at most 30mm.
19. (Currently Amended) The process according to claim 10, wherein the first gaseous stream ~~comprising the fuel is~~ comprises natural gas.
20. (Currently Amended) The process according to claim 10, wherein the first gaseous stream ~~comprising the fuel~~ is methane.
21. (Original) The process according to claim 12, wherein the feed mixture comprises the fuel and the oxidant in amounts giving an oxygen-to-carbon ratio of from between 0.45 to 0.75.

22. (Original) The process according to claim 13, wherein the feed mixture is contacted with the catalyst at a pressure in the range of from between 5 to 50 bar (absolute).
23. (Original) The process according to claim 14, wherein the feed mixture is contacted with the catalyst at a gas hourly space velocity of from between 50,000 to 50,000,000 Nl/kg/h.
24. (Original) The process according to claim 14, wherein the feed mixture is contacted with the catalyst at a gas hourly space velocity of from between 500,000 to 30,000,000 Nl/kg/h.
25. (Original) The process according to claim 15, wherein the feed mixture is contacted with the catalyst at a temperature of from between 850 to 1350 °C.
26. (Original) The process according to claim 15, wherein the feed mixture is contacted with the catalyst at a temperature of from between 900 to 1300 °C.